**A Mishmash of Project Ideas and data sources**

How Does Age Play a Role in the Tony Awards Winner for Best Actress in a Musical?

Does Racial Bias exist in North Carolina's traffic enforcement?

Population versus Budget

*To what extent does population of a country predict budget?*

Is There a Correlation Between Autism Rates and Family Income Level?

Can death by heart disease be predicted by where somebody lives?

Does race and ethnicity have an effect on woman's income?

**Existing Data Sources and Project Ideas General Data Sites:**

o http://www.cdc.gov/DataStatistics/ CDC

o http://unstats.un.org/unsd/databases.htm United Nations Statistics Division (UNSD)

o http://www.clinicalcorrelations.org/ Clinical Correlations

o http://faostat.fao.org/ Food and Agriculture Organization of the United Nations (FAOSTAT)

o http://www.who.int/research/en/ World Health Organization of the United Nations (disease and healthcare)

o http://www.fedstats.gov/ Federal Government Statistics

o http://www.eeps.com/zoo/index.html Data Zoo

o http://www.dartmouth.edu/~chance/teaching\_aids/data.html

o DASL The Dataset and Story Library - a collection of datasets and related documentation (stories)

o http://www.keypress.com/x2814.xml - Fathom Data Sites

o http://www.keypress.com/x3894.xml - Fathom Data Sites

o http://www.census.gov/main/www/a2z/ U.S. Census Bureau A to Z:

o http://www.census.gov/compendia/statab/ us stat abstract:

o http://www.census.gov/population/international/ world population

o http://www.census.gov/population/www/popclockus.html U.S. Population:

**Environment /Climate / Energy / Engineering Data Sources**

a) Which are more accurate for a particular chosen city: the predicted high or predicted low temperatures?

b) the rainfall one year correlated positively, negatively, or not at all with the rainfall the previous year?

c) Is wind energy effective and practical?

d) Are electric vehicles helping to save the U.S. from importing oil?

e) Global warming – summer of 2011 is described as the second hottest summer ever on record.

**f)** Are antibiotics being administered to our food supply causing germ resistance to antibiotics in people?

o http://www.ncdc.noaa.gov/oa/ncdc.html National Center for Climatic Data (NCDC)

o http://www.noaa.gov/index.html National Oceanic Atmospheric Administration (NOAA)

o http://www.epa.gov/enviro/html/ef\_overview.html U.S. Environmental Protection Agency: (EPA)

o http://www.nrel.gov/rredc/ National Renewable Energy Laboratory: (NREL)

o http://www.afdc.energy.gov/afdc/ Alternative Fuels and Advanced Vehicles Data Center

o http://www.unep.org/ United Nations Environment Program (UNEP)

o http://www.ipcc.ch/ Intergovernmental Panel On Climate Change (IPCC)

o http://www.nhc.noaa.gov/ National Hurricane Center

o http://www.weather.gov/ National Weather Service

o http://swera.unep.net/index.php?id=7 Data for Solar and Wind Renewable Energy (SWERA)

o http://www.seattlecentral.edu/qelp/index.html Quantitative Environmental Learning Project (QELP)

**Medicine & Public Health**

**Epidemiology is the study of health patterns. It is cornerstone method of public health research. PH research helps governments determine policy to help people become / stay healthier, and prevent disease. Method is identifying risk factors and trying to find associations between factors, or cause. Epidemiologists work on designing studies and collect data for statistical analysis. Outbreak investigation, disease surveillance, screening, bio monitoring, and conducting clinical trials are all public health functions.**

1. Is there a correlation between what state a person lives in and their risk for getting cancer?

2. Is there a correlation between the number of TV sets per home and obesity rates?

3. What day of the week are there more deaths recorded?

4. Do states with lower speed limits have fewer fatalities?

5. Towns with High schools that have earlier starting times report that students have more accidents than students attending a school with a later starting time. Can you find data to verify this?

6. Do more car accidents happen on one particular day of the year such as the first day of Standard time after going off Daylight Savings time?

7. is there a correlation between malaria and sickle cell anemia

8. is there correlation / causation between root canal and cancer?

9. Do Vaccines cause Autism?

10. Is There a Correlation Between Autism Rates and vaccinations?

11. Relationship Between Maternal Age and Incidences of Down Syndrome

12. Caffiene and diabetes

13. is there a link between breast cancer and abortion

14. is there correlation between lymphoma and depression

15. is there correlation between gmos and cancer

16. is there a correlation between pesticides and cancer

17. is there correlation between marrow and spongy bone

18. is there correlation between stem cells and leukemia

19. is there correlation between stem cells lymphoma

20. is there a correlation between the complexity of an organism and the number of chromosomes

21. is there a correlation between spinal cord damage and paralysis?

22. is there a correlation between cord blood and stem cells

23. is there a correlation between pesticides and IQ?

24. is there a correlation between fast food and obesity

25. Is There a Correlation Between Autism Rates and Family Income Level?

26. Is is there a correlation between malaria and sickle cell anemia

27. there a correlation between daylight savings time (DST) and increased car accidents?

28. is there correlation / causation between caffeine and diabetes?

29. Is there a correlation / causation between taking multivitamins and benefits to long-term health?

30. Is there correlation / causation between dark chocolate and positive health outcomes?

31. Is there correlation between bad weather and arthritis?

32. Is there a correlation between getting tattoos and a skin or staph infection or other ill effect?

33. Do sales of large sugary drinks of 16 oz. Or more promote obesity?

34. Does nationwide morbidity increase in July when medical interns are placed in new positions at hospitals?

35. Is there a correlation between 3-D imaging (instead of digital imaging) and increased cancer detection rates and decreases false positives?

**Medicine & Public Health-continued**

36. Is there a correlation between inhaled insulin (instead of injectable) and improved diabetes symptoms?

37. Is there a correlation between excessive coffee/caffeine intake and irregular hearbeat? (atrial fibrillation)

38. Is there correlation between e-cigarette use and smoking cessation?

39. Is there a correlation between running and knee arthritis?

40. Is there a correlation between artificial sweeteners (instead of sugar) and positive health outcomes?

41. Is there correlation with eating read meat and negative health outcomes?

o www.cdc.gov/nchs/ CDC - National Center for Health Statistics Homepage ---

o http://www.cdc.gov/az/ Centers for Disease Control topics A to Z (CDC)

o http://www.cdc.gov/DataStatistics/ CDC Data & Statistics

o http://www.americashealthrankings.org/ America’s Health Rankings

o https://dawninfo.samhsa.gov/default.asp Drug Awareness Warning Network (DAWN):

o http://progressreport.cancer.gov/ Cancer Trends Progress Report:

o http://www.who.int/phe/health\_topics/en World Health Organization (WHO) ---

o http://www.nih.gov/ National Institute of Health (NIH)

o http://www.cancer.gov/aboutnci/cis/page1 National Cancer Institute (NCI)

o http://www.ncbi.nlm.nih.gov/pubmed PubMed.Gov ---

o http://phpartners.org/health\_stats.html Health Data Tools and Statistics:

o http://mchb.hrsa.gov/mchirc/chusa/ U.S. Child Health Statistics:

**Political and Social Science / Economics / Psychology /Education**

1. Is there correlation between Kindness and intelligence?

2. is there a correlation between crime and poverty?

3. Is there correlation / causation between intelligence and happiness

4. is there a correlation between intelligence and depression

5. is there correlation between marijuana and schizophrenia

6. Do Exit polls accurately predict winners of elections?

7. Has capital punishment reduced the amount of violent crime in Tx. or other state?

8. Do normally patient people become impatient behind the wheel?

9. Is there correlation / causation between gender and schizophrenia?

10. Is there a link between smoking and intelligence?

11. Is there correlation / causation between gender and elevated stress levels?

12. What are effects of video games on growth / development of individuals and society?

13. Is there correlation / causation between school uniforms and higher achievement levels?

14. is there correlation between marijuana and criminal activity

15. is there correlation between marijuana use and mental illness

16. is there correlation between legalized prostitution and decreased sexual violence?

17. is there correlation between social media and grades

18. Is there a correlation between marriage and longer life expectancy?

19. is there a correlation between mass shootings and population

20. is there a correlation between mass shootings and time of year

21. is there a correlation between mass shootings and age of shooter?

22. is there a correlation between mass shootings and decade?

23. Is there a correlation between IQ and political party

24. Is there a correlation between IQ and SAT scores?

25. is there a correlation between education and political party

26. is there a correlation between intelligence and political affiliation

27. is there a correlation between gun ownership and crime

28. is there a correlation between deficit and national debt

29. is there a correlation between federal budget deficit and trade deficit

30. Religion and IQ: is there a correlation?

31. Are suicide rates higher for certain Religions?

32.

o http://pewresearch.org/

o http://www.gallup.com/poll/election.aspx

o http://fivethirtyeight.blogs.nytimes.com/

o http://www.hivaidssurveillancedb.org/HIVDB/ Aids Surveillance Data Base:

o http://www.apa.org/topics/obesity/index.aspx American Psychological Association

o http://www.esa.doc.gov/about-economic-indicators U.S.EconomicsStatistics Association

o http://www.bls.gov/data/ U.S. Department of Labor Bureau of Labor Statistics

o http://research.stlouisfed.org/fred2/ Federal Reserve Economic Data (FRED)

**Political and Social Science / Economics / Psychology /Education….CONTINUED**

o http://www.econdata.net/ EconData.net

o http://www.fedstats.gov/ Federal Statistics (FEDSTATA)

o http://www.brillig.com/debt\_clock/ National Debt Clock and Information

o http://www.worldbank.org/ World Bank:

o http://www.imf.org/external/data.htm International Monetary Fund Data and Statistics

o https://www.cia.gov/library/publications/the-world-factbook/ CIA World Fact Book

o http://Fivethirtyeight.com http://fivethirtyeight.blogs.nytimes.com/ **FiveThirtyEight** is a polling aggregation

o http://dawninfo.samhsa.gov/ Drug Awareness Warning Network (DAWN)

o http://polisci.lsa.umich.edu/grad/comparative/data.htm

o http://www.icpsr.umich.edu/icpsrweb/ICPSR/ InterUniversity Consortium for Political and Social Research:

o http://politicaldata.com/Pages/Index.aspx Political Data Inc.

o http://einstein.library.emory.edu/international\_socsci.html International Statistical and Electoral Resources

o

**Sports / Entertainment Data Sources**

a) http://www.stats.com/ Sports Data:

b) http://baseball1.com/ website features baseball statistics -beginning 1871. Includes player salary data

c) http://www.cbssports.com/mlb/stats CBS Sports Data: - fathom

d) http://sabr.org/ Saber metrics

e) NFL Quarterback Passer Rating Data http://www.dartmouth.edu/~chance/teaching\_aids/data/NCAA.html

f) http://www.usatoday.com/life/television/nielsen.htm Neilson Television Ratings:

**Below are example research topics.**

2. What is the relationship between a person’s weight classification in Rowing and their times on an ergometer (rowing machine)?

3. Does Racial Bias exist in North Carolina’s traffic enforcement?

4. Is there a correlation between Music and math?

5. How Does Age Play a Role in the Tony Awards Winner for Best Actress in a Musical?

6. Caffeine Consumption And Sports Achievement

7. Does playing a musical instrument raise SAT scores?

8. Energy Drinks and Your GPA, is there a cause and effect?

9. Population Growth

10.A Comparison of the Agricultural Economy of a Developed and a Developing Country

11.The Resilience of the Baseball and Its Effects on Home Run Production

12.Is There a Relationship Between the Length of a Turbine Blade and Voltage?

13.Is home court/ field a better predictor for high school, college, or pro sports?

14.Is home court/field a better predictor for Football, Basketball, Baseball, Hockey?

15.Is there a correlation between gender and suicide rates?

16.Is there a correlation between music genre and higher SAT scores?

17.Is there a correlation between strict gun laws and homicide or mass shooting rates?

18.Is there a correlation between brain size and intelligence?

19.Is there correlation / causation between gas prices and obesity?

20.Is there correlation / causation between happiness and income?

21.Is there correlation between Height and pulse rate?

22.Is there a rise in climate change and tick-borne diseases?

23.Is an oral vaccine effective for cholera outbreaks?

24.is there a correlation between vitamin d deficiency and obesity?

25.Is there correlation / causation between zinc supplements and curing common cold?

26.Is their correlation / causation between medications and curing obesity?

27.Is correlation between preadmission testing for MSRA and decreased MRSA infections after hospital stay?

28.Is there correlation between antidepressant use and increased risk of suicide?

29.Is there a correlation between prayer and improved- positive health outcomes?

30.Is there a correlation between rising global temperature / climate change and Antarctic sea ice melt?

31.Fuel economy in MPG for 2004 motor

32.Reaction Times in a Computer Game”

33.Average per capita wine consumption and heart disease

34.Length of essay and score for a sample of SAT essays”

35.Does TV make you live longer?

36.Do artificial sweetners cause weight gain?

37.Does exposure to industrial chemicals cause miscarriages?

38.Does having more cars make you live longer?

39.Are grades and TV watching linked?

40.Does being married cause people to earn more money?

**QUESTIONS TO CONSIDER ABOUT DATA**

• \_If your project involves real-world data, think about these questions.

• \_Is the source reliable?

• \_Is your sample representative?